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ABSTRACT

This document presents an outline for a 135-hour course designed to help students become employable with skills, knowledge, attitudes, and values necessary for performing the required service of the automotive trim and glass mechanic. The course of study includes an orientation to the course, service tools and bench skills development, and a study of automotive body trim and glass. The behavioral objectives and performance standards necessary for a person to become an automotive trim and glass mechanic are specified. A nine-item bibliography, a list of four films, and a Quinmester post test sample are included. (KP)

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AUTHORIZED COURSE OF INSTRUCTION FOR THE QUINMESTER PROGRAM

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Course Outline
AUTOMOTIVE MECHANICS 2 - 9045
(Automotive Body Trim and Glass)
Department 48 - Course 9045.05

CE00 1437

DADE COUNTY PUBLIC SCHOOLS

DIVISION OF INSTRUCTION • 1973

DADE COUNTY PUBLIC SCHOOLS
1450 NORTHEAST SECOND AVENUE
MIAMI, FLORIDA 33132

Course Outline

AUTOMOTIVE MECHANICS 2 - 9045
(Automotive Body Trim and Glass)

Department 48 - Quin 9045.05

county office of
VOCATIONAL AND ADULT EDUCATION

THE SCHOOL BOARD OF DADE COUNTY

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Dr. E. L. Whigham, Superintendent of Schools
Dade County Public Schools
Miami, Florida 33132

January, 1973

Published by the School Board of Dade County

Course Description

9045	48	9045.05	Automotive Body Trim & Glas
State Category Number	County Dept. Number	County Course Number	Course Title

This Quinmester course is designed as one of a group of quinmester courses offered in the field of Auto Mechanics. The student will receive the general information, technical knowledge, basic skills, attitudes and values that are required for job entry level as mechanics helper. This course will be given in a 9 week period.

Indicators of success: The applicant must demonstrate an eighth grade equivalency score in reading and math and have average ability in mechanical aptitudes.

Clock Hours: 135

PREFACE

The following quinmester course outline is a guide to help students become employable with skills, knowledge, attitudes and values necessary for performing the required service of the automotive trim and glass mechanic.

This course is designed as a foundation quinmester course for the field of Automotive Mechanics. This outline consists of four blocks of instruction which are subdivided into several units each. It is only part of a series of outlines designed for the complete automotive mechanic. This course is 135 hours in length.

Prerequisites for this course are as follows: the student must have an eighth grade equivalency score in reading comprehension, arithmetic fundamentals, and mechanical aptitudes. The student must be physically and mentally able to profit from this training.

Instruction consists of demonstrations, lectures, group discussions, audiovisual aids and resource people from industry. Instruction is flexible to meet individual needs and abilities.

The bibliography lists several basic references along with supplementary references and audiovisual aids.

This outline was developed through the cooperative efforts of the instructional and supervisory personnel, the Quinmester Advisory Committee, and the Vocational Curriculum Materials Service, and has been approved by the Dade County Vocational Curriculum Committee.

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with Suggested Hourly Breakdown

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	Student Benefits	1
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II.	SERVICE TOOLS AND BENCH SKILLS (30 hours)	
	Automotive Hand Tools	1
	Measuring Devices	2
III.	AUTOMOTIVE BODY TRIM AND GLASS (100 hours)	
	Exterior Trim and Hardware	2
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	Door Assemblies	3
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GOALS

The automotive mechanic trainee must be able to demonstrate:

1. The skills and knowledge required to perform maintenance service and repairs to the automotive body and sheet metal parts.

2. The ability to diagnose, align and adjust component parts of the automotive body.

3. Pride and respect for craftmanship in this occupational field.

4. Positive attitudes regarding the value and dignity of work.

5. Safe work habits and proper shop behavior to guard against accidents.

6. An incentive to continue with more advanced training within this occupational field.

SPECIFIC BLOCK OBJECTIVES

BLOCK I. ORIENTATION

The student must be able to:

1. List the opportunities that are available for career in the automotive mechanical occupation by written assignment.
2. State what will be expected of him as an automotive mechanic oral or written.
3. Demonstrate skills and knowledge which will prepare him for a safe working life by actual shop assignments.
4. Demonstrate an understanding of shop organization by written assignments.
5. Demonstrate pride and respect for workmanship by his performance.
6. Demonstrate understanding and acceptance of personal responsibilities by his actions in class room or labcratory.

BLOCK II. SERVICE TOOLS AND BENCH SKILLS

The student must be able to:

1. Define the general type of tools and their use by written test.
2. Exhibit the ability to use the applicable tools and perform bench skills in proper manner by selection and use.
3. Demonstrate the proper care and maintenance of tools and equipment by following written instructions.
4. Exhibit the ability to observe safety precautions in the use of tools and equipment by his performance in laboratory.

BLOCK III. AUTOMOTIVE BODY TRIM AND GLASS

The student must be able to:

1. Demonstrate an understanding of body moldings and their function by related and manipulative assignments.
2. Demonstrate an understanding of body trim items and glass by performing related assignments.
3. Demonstrate an understanding of door assemblies by removal and assembly of component parts.
4. Demonstrate an understanding of door alignment by removing, installing and realignment of door.
5. Demonstrate an understanding of hood assemblies and alignment by removal, disassembly, reassembly, installing and adjusting hood.
6. Demonstrate an understanding of bumper assemblies and alignment by removal disassembly, reassembly, installing and adjusting bumper.
7. Exhibit the ability to identify make and model of automobiles by study of shop manuals.
8. Demonstrate the ability to remove, reinstall, adjust and align rear compartment cover by performing assignment.

BLOCK IV. QUINMESTER POST-TEST

The student must be able to:

1. Satisfactorily complete the quinmester post-test.

Course Outline

AUTOMOTIVE MECHANICS - 9045
(Automotive Body Trim and Glass)

Department 48 - Quin 9045.05

I. ORIENTATION

A. Objectives of Course
1. Standards
2. Methods of Evaluation
a. Written test
b. Oral
c. Manipulation
d. Diagnosis and job performance
e. Teaching methods

B. Student Benefits
1. Opportunity of employment
a. Scope of trade
b. Job opportunities
2. Qualifications for employment
a. Job competency
b. Attitudes
c. Dependability
d. Pride of workmanship
e. Experience
f. Foundation for more education and learning

C. Student Responsibilities
1. School policies and expense
2. School regulations
3. Shop rules and procedures
a. Care of hand tools
b. Use and care of equipment
c. Materials and supplies
d. Appropriate dress
e. Reporting loss of equipment
f. Reporting defective equipment
g. Housekeeping
h. Employee-Employer relations
i. Employee-customer relations

II. SERVICE TOOLS AND BENCH SKILLS

A. Automotive Hand Tools
1. Types and sizes
2. Uses and safety precautions
a. Removing and replacing
b. Drilling
c. Aligning
d. Adjusting
e. Power tools
f. Vises and clamps
g. Lifting devices

B. Measuring devices
   1. Steel tape
   2. Tram gauge
      a. Numerical measurements
      b. Compartive measurements

III. AUTOMOTIVE BODY TRIM AND GLASS

A. Exterior Trim and Hardware
   1. Methods of manufacture
      a. Cast
      b. Stamped
      c. Formed
   2. Methods of installation
      a. Spring clips
      b. T bolts
      c. Barrell clips
      d. Speed clips
      e. Screws
      f. Plastics clips

B. Interior Trim and Hardware
   1. Function
   2. Description
   3. Construction
   4. Material
      a. Fabric
      b. Plastic
      c. Vinyl
      d. Chrome
      e. White metal
      f. Aluminum
   5. Removal and installation
      a. Methods
      b. Type of fasteners

C. Door Glass
   1. Types
   2. Construction
   3. Function
      a. Stationary
      b. Movable
      c. Laminated
      d. Solid tempered
   4. Aligning and adjusting
      a. Principles of adjusting
      b. Methods of alignment
      c. Types of adjustment
      d. Nomenclature

D. Door Assemblies
   1. Manufacturing
      a. Methods
      b. Materials
      c. Types
      d. Function
      e. Sealing
   2. Installation and adjusting
      a. Procedures
      b. Type of adjusting
      c. Safety precautions
      d. Attachments
      e. Alignment

E. Hood Assemblies
   1. Manufacturing
      a. Method
      b. Materials
      c. Types
      d. Function
   2. Installation and adjusting
      a. Procedures
      b. Safety precautions
      c. Attachments
      d. Adjustments
      e. Alignment

F. Rear Compartment Cover Assemblies
   1. Manufacturing
      a. Method
      b. Materials
      c. Types
      d. Function
      e. Sealing
   2. Installation and adjusting
      a. Procedures
      b. Safety precautions
      c. Attachments
      d. Alignment
      e. Adjusting

G. Bumper Assemblies
   1. Manufacturing
      a. Methods
      b. Materials
      c. Types
      d. Function
   2. Installation and adjusting
      a. Procedures
      b. Safety precautions
      c. Adjustments
      d. Attachments
      e. Alignment

IV. QUINMESTER POST-TEST

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3. Venck, Ernest. Spicer, Edward; Davis, Ewart S. Automotive Collision Work. Chicago, Illinois. American Technical Society. Third Printing, 1964. p. 27.

Instructional Manuals and Guides:

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5. 1971 Car Shop Manual. 1970 Ford Marketing Corp. Dearborn Michigan. First Printing, September 1970.

6. Motor's Crash Estimating Guide. New York City: The Hearst Corporation.

Films:

1. ABC of Hand Tools. Part I, 16mm. 18 min. Color. Sound. General Motors, Dade County No. 1-11397

2. ABC of Hand Tools, Part II. 16mm. 16 min. Color. Sound. General Motors, Dade County No. 1-11399

3. Accidents Happen to Sam. 16mm. 13 min. B/W. Sound. National Safety. Dade County No. 1-11339

4. I Want A Job. 16mm. 26 min. B/W. Sound. Ford Motor Company. Dade County No. 1-11568

A P P E N D I X

Quinmester Post-Test Samples

QUINMESTER POST-TEST

The following items are multiple choice. Select the number you believe correct:

1. The size wrench used on a 5/16" bolt is

    1. ¼"
    2. 9/16"
    3. ½"
    4. 5/8"

2. The size wrench used on a ¼" bolt is

    1. 3/4"
    2. 13/16"
    3. 7/16"
    4. 9/16"

3. The size wrench used on a 3/8" bolt is

    1. 7/8"
    2. 9/16"
    3. 7/16"
    4. ½"

4. Sheet metal screws are used extensively in the assembling of automobile bodies. The type most commonly used is the

    1. Pan head
    2. Allen head
    3. Phillips head
    4. Clutch head

5. Of the following size Phillips screw drivers, the one used most is

    1. No. 1
    2. No. 2
    3. No. 3
    4. No. 4

6. The type socket used on a square nut is

    1. 12 point
    2. 8 point
    3. 6 point
    4. none of above

7. An impact wrench is used for

    1. Drilling
    2. Reaming
    3. Removing and replacing bolts
    4. All of above

8. A die is used to

    1. Cut threads in a hole
    2. Straighten metal
    3. Cut threads on rod or pipe
    4. Ream hole

9. Pliers are used to

    1. Hold
    2. Tighten
    3. Loosen
    4. All of above

10. Hack saws are used to

    1. Cut sheet metal
    2. Cut bolts
    3. Cut fiber glass
    4. All of above

11. A tap is used to

    1. Screw on bolts
    2. Cut threads on rod or pipe
    3. Cut threads in hole
    4. Cut sheet metal

12. A steel tape is graduated in

    1. 5/16"
    2. 3/16"
    3. 1/16"
    4. All of above

13. A tram gauge is used to measure close tolerance such as

    1. .010
    2. .050
    3. .080
    4. Comparative measurements

14. A vise is used to

    1. Hold
    2. Squeeze
    3. Press
    4. All of above

15. A floor jack is used to

    1. Lift
    2. Squeeze
    3. Press
    4. None of above

15. A floor jack is used to

    1. Lift
    2. Squeeze
    3. Press
    4. None of above

16. Body moldings are formed by

    1. Dies
    2. Stamped
    3. Molds
    4. All of above

17. Body moldings are made from the following materials

    1. Brass
    2. Aluminum
    3. White metal
    4. All of above

18. Plastic molding clips are used to prevent

    1. Rust
    2. Water leaks
    3. Distortion
    4. Adhesion

19. Spring molding clips are used for

    1. Inaccessible areas
    2. Easy installation
    3. Time saving
    4. All of above

20. T bolt molding clips are used most in

    1. Inaccessible areas
    2. Accessible areas
    3. Location immaterial
    4. None of above

21. The purposes of exterior moldings are

    1. Body design
    2. Additional strength
    3. Protect paint
    4. All of above

22. The purposes of interior trim are

    1. Appearance
    2. Protection
    3. Insulation
    4. All of above

23. To remove door trim panel it is necessary to

    1. Remove door
    2. Remove door hinges
    3. Remove door interior hardware
    4. Remove door outer panel

24. Front door hinge adjustments are located on

    1. Door and cowl posts
    2. Fire wall
    3. Rocker panel
    4. Quarter panel

25. Door hinges adjust

    1. Fore and aft
    2. Up and down
    3. In and out
    4. All of above

26. A door that is in too far at bottom and out too far at top can be aligned by

    1. Adjusting both hinges forward
    2. Adjusting top hinge forward
    3. Adjusting bottom hinge out and top hinge in
    4. Adjusting both hinges up

27. A door that is too low leaving a wide space at top and too close at bottom can be adjusted by

    1. Adjusting top hinge forward
    2. Adjusting bottom hinge back
    3. Adjusting both hinges upward
    4. Adjusting both hinges forward

28. The door striker is adjustable up and down in and out. When aligning a door it is advisable to

    1. Loosen striker
    2. Remove striker
    3. Adjust striker in as far as possible
    4. Adjust striker up as far as possible

29. When aligning door glass it is advisable to

    1. Remove door from car
    2. Remove door glass
    3. Use adjustments provided by factory
    4. None of above

30. The purposes of door weather strips are to

    1. Keep out water
    2. Keep out dust
    3. Keep out road noise
    4. All of above

31. Bumpers have factory adjustments to

    1. Adjust up or down
    2. Adjust in or out
    3. Adjust right or left
    4. All of above

32. Hoods are provided with adjustments to

    1. Adjust forward
    2. Adjust backward
    3. Adjust up or down
    4. All of above

33. When installing hood the first point of alignment is

    1. An even spacing adjoining cowl
    2. An even spacing adjoining grille or front panel
    3. An even spacing on sides adjoining fenders
    4. None of above

34. Hood latches are adjustable

    1. Forward or backward
    2. Right or left
    3. Up or down
    4. All of above

35. Rear compartment covers are provided with adjustments to

    1. Adjust forward
    2. Adjust backward
    3. Adjust right or left
    4. All of above

36. Rear compartment cover hinges on some make of cars are provided with torsion rods which act as

    1. Supports
    2. Reinforcements
    3. Springs
    4. Adjusters

ANSWER KEY TO QUINMESTER POST-TEST

1.	3	19.	4
2.	3	20.	2
3.	2	21.	4
4.	3	22.	4
5.	2	23.	3
6.	2	24.	1
7.	3	25.	4
8.	3	26.	3
9.	4	27.	3
10.	4	28.	2
11.	3	29.	3
12.	4	30.	4
13.	4	31.	4
14.	4	32.	4
15.	1	33.	1
16.	4	34.	4
17.	4	35.	4
18.	1	36.	3